REMARKS/ARGUMENTS

Reexamination of the captioned application is respectfully requested.

A. SUMMARY OF THIS AMENDMENT

By the current amendment, Applicants basically:

1. Editorially amend the Abstract at the invitation of the Examiner.
2. Editorially amend the specification, primarily to update cross reference to related application and for editorial reasons.
3. Editorially amend independent claim 1.
4. Add new dependent apparatus claim 31 and new dependent method claim 33, both supported, e.g., by paragraph [00132] of the original disclosure.
5. Add new dependent apparatus claim 32 and new dependent method claim 34, both supported, e.g., by paragraph [00135] of the original disclosure.
6. Respectfully traverse all rejections.
7. Advise the Examiner of the simultaneous filing of a Petition to Extend.

B. TRAVERSAL OF DOUBLE PATENTING REJECTION

Claims 1- 30 stand provisionally rejected on the ground of non-statutory obviousness type double patenting as being unpatenable over various claims of Applicants' US Patent Application 10/717,313. Since no claims of US Patent Application 10/717,313 have been allowed, and since it is not apparent what the final scope of any claim of a patent issuing on US Patent Application 10/717,313 will be, the provisional obviousness type double patenting is respectfully traversed as not being ripe. Such any conflict developed with an allowed claim, Applicant reserves the right if necessary to file a Terminal Disclaimer to overcome any sustained and legitimate obviousness type double patenting rejection.

C. PATENTABILITY OF THE CLAIMS

Claims 1-5 and 16-20 stand rejected under 35 USC §102(e) as being anticipated by U.S. Publication 2003/0012267 to Jitsukawa et al. Claims 6, 12-15, 21 and 27-30 stand rejected under 35 USC §103(a) as being unpatentable over U.S. Publication 2003/0012267 to Jitsukawa et al as applied to claims 1-5 and 16-20 above, and further in view of U.S. Patent 5,790,606 to Dent et al. All prior art rejections are respectfully traversed for at least the following reasons.

Applicant's independent claims 1 and 16 are conspicuously directed to a joint searcher and channel estimator/method which essentially concurrently considers plural signals for respective successive sets of pilot data for determining both a time of arrival and channel coefficient.

New dependent claims 31 and 33 further specify, e.g., that the joint searcher and channel estimator is arranged for essentially concurrently operating upon a two dimensional functionally dependent matrix, the signals being stored in the matrix as a function of two different indices, a first index being a time index of a sampling window employed for each of the sets of pilot data and a second index indicating for which one of the successive sets of pilot data the signal was obtained.

Alternatively, new dependent claims 32 and 34 further specify, e.g., that the joint searcher and channel estimator is arranged for essentially concurrently operating upon a matrix which stores signals which are dimensionally differentiated by being acquired in differing frame transmission intervals.

U.S. Publication 2003/0012267 to Jitsukawa et al. does not teach or suggest, e.g., joint and concurrent consideration of plural signals for respective successive sets of pilot

signals. As evident from paragraph [0033]+ of Jitsukawa, phase difference estimators 61_1 through 62_L are dedicated and thus confined to their respective time periods t_1 through t_L. That is, estimator 62_i uses sample data at a discrete time t_i to perform correlation calculations and estimate phase difference among antenna elements at the time (t_i) in question.

Moreover, in Jitsukawa a movigng computation portion $62b_1$ computes a moving averate of S estimated phase differences in a most recent slot interval, and outputs a moving average as the phase difference among the anntena elements at time t_1.

Thus, in Jitsukawa the correlation and phase difference estimation is made discretely for each time, and therefore the correlation and estimation are not essentially concurrently based on plural sets of successive pilot signals. Further in this regard, see, e.g., paragraph [0037]+.

Moreover, with respect not only to independent claims 1 and 16, but also to dependent claims such as original dependent claims 12 and 27 and new dependent claims 31 and 33, for example, note that the numerical expressions of Jitsukawa such as expression 5 are based only on one index (in expression 5 the index "n" pertains to the antenna number). The single index expressions of Jitsukawa prove that Jitsukawa does not jointly consider data organized as a function of two indices.

Yet further, the fact that Jitsukawa uses a moving average dramatizes the fact that Jitsukawa does not concurrently consider plural signals in the manner of Applicant's independent claims. Neither movement nor averaging are necessary if plural values of successive sets of pilot signals were concurrently considered.

D. MISCELLANEOUS

In view of the foregoing and other considerations, all claims are deemed in condition for allowance. A formal indication of allowability is earnestly solicited.

The Commissioner is authorized to charge the undersigned's deposit account #14-1140 in whatever amount is necessary for entry of these papers and the continued pendency of the captioned application.

Should the Examiner feel that an interview with the undersigned would facilitate allowance of this application, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,
NIXON & VANDERHYE P.C.

By: /H. Warren Burnam, Jr./
H. Warren Burnam, Jr.
Reg. No. 29,366

HWB:lsh
901 North Glebe Road, 11th Floor
Arlington, VA 22203-1808
Telephone: (703) 816-4000
Facsimile: (703) 816-4100